ABANDONED HARDROCK MINE LANDS

ISSUE SUMMARY:

Abandoned mine lands (AMLs) can have an adverse effect on human health and the environment, primarily through water and soil contamination resulting from mineral processing and acid mine drainage. In 2016, to better understand the inventory and risk factors of AMLs, the Office of Management and Budget directed the EPA, U.S. Department of Interior (DOI), and U.S. Department of Agriculture (USDA) to submit a joint report providing data on AMLs. This report noted there are over 270,000 hard rock AML sites in the United States, spread across federal, state, tribal and private lands. In addition, the U.S. Department of Energy (DOE) separately, under the National Defense Authorization Act for Fiscal Year 2013, identified approximately 4,225 abandoned uranium mines from which ore was extracted for U.S. defense-related activities from 1947 to 1970. Only a small percentage of AMLs are under EPA's purview. Addressing AML sites can result in some of the most costly and complex cleanup actions that governments undertake.

UPCOMING MILESTONES:

- EPA is in the advanced stages of developing an online tool for national, centralized information management of the approximately 140 National Priorities List (NPL) AML sites and Superfund Alternative Approach AML sites. This tool will eventually serve as a real-time resource for senior EPA management and staff to track climate change impacts on AML sites (e.g., wildfires, storm events); support rapid responses to data requests from OMB, Congress, the press and others; and for engagement with stakeholders to plan work at AML sites.
- EPA is developing an Abandoned Mine Site Characterization and Cleanup Handbook, which will be a tool for EPA and stakeholders to use to inform response actions at AML sites in conjunction with existing EPA guidance. The agency anticipates finalizing this document in early 2022.
- [redacted]

BACKGROUND:

- EPA estimates that there are well over 500 mining sites, many of which are AML sites, where there has been some Superfund activity, including 140 mining sites on the Superfund NPL)
- There is no overarching federal regulatory authority, or other national program that comprehensively oversees, regulates or coordinates the cleanup of hard rock mining sites. The absence of such a comprehensive authority adds to the agency's challenge of prioritizing and cleaning up these generally remote and sometimes very large sites at the national level. If left unabated, these sites will continue to pose safety, environmental and human health risks.

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- The primary challenge in addressing these sites is a lack of reliable funding. Many, if not most, of them, have been abandoned for decades, or in some cases more than a century. The sites often cover large areas in remote regions with difficult access. Further, they are located at high altitudes with short construction seasons, which makes them especially challenging and prolongs the time needed to conduct cleanup activities.
- Due to the presence of naturally occurring contamination, and EPA's policy to generally not clean sites up below background, realistic cleanup goals reflect elevated contamination levels based on background. Agencies may consider regulatory and programmatic flexibilities, as applicable, when addressing these sites. Finally, technical approaches and technologies to characterize, remediate and monitor affected source areas, sediments, groundwater and surface water could benefit from innovation to improve the effectiveness, efficiency and timeliness of mining site response and land revitalization activities.
- EPA participates in the Federal Mining Dialogue (FMD) with the DOD/U.S. Army Corps of Engineers and several DOI offices (e.g., BLM, Office of Surface Mining Reclamation and Enforcement and Bureau of Indian Affairs), the USDA/USFS and DOE.
    - FMD members are using their individual agencies' existing resources to focus first on mitigating risks associated with known hazardous site conditions.
    - EPA plans on partnering with the U.S. Geological Survey (USGS) to assemble a comprehensive national AML inventory to capture EPA and other federal agency-tracked sites as well partnering with appropriate state agencies to develop state-by-state inventories. Additionally, the FMD has formed a best practices subcommittee to share AML characterization and remediation lessons learned.
- EPA also participates in the Abandoned Uranium Mines Working Group with DOE, DOI/BLM, USDA/USFS, DOI/National Park Service, and states to work together to address Defense-Related Uranium Mines (DRUMs). DOE's DRUM program is currently conducting field inventories of all 4,225 identified abandoned uranium mines.
- EPA recently signed a site-specific redelegation of CERCLA authority, from EPA to the USFS, for a removal action at the Matterhorn Mill Site in Colorado. This non-NPL site is an historic mill surrounded by mine waste tailings and largely located on USFS-managed land. The site-specific redelegation of CERCLA authority is consistent with EO 12580 Redelegation Authority and follows EPA delegation 14-46 signed by Administrator Wheeler on September 1, 2020.

KEY EXTERNAL STAKEHOLDERS:

☒ Congress ☒ Industry ☒States ☒ Tribes ☒ Media ☒ Other Federal Agency
☒ NGO ☒ Local Government ☐ Other (name of stakeholder) _____

Stakeholder concerns include acid mine drainage impacts on water quality and the potential risk of uncontrolled mine-influenced water releases. In addition, the magnitude, risk, complexity and costs associated with addressing abandoned mines requires a collaborative effort between federal, state and tribal governmental agencies and environmental organizations.

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MOVING FORWARD:

- EPA recently created the Office of Mountains, Deserts and Plains, which will work with other EPA offices, other federal agencies, states, tribes and other stakeholders to address abandoned Western hard rock mine sites located in EPA Regions 6-10. The Office's focus is to work with appropriate Office of Land and Emergency Management program offices (e.g., Office of Site Remediation and Technology Innovation) and appropriate EPA regional offices (i.e., Regions 6-10) to: (1) expedite the effective and protective cleanup of abandoned uranium mines on the Navajo Nation, (2) streamline procedures and processes for Good Samaritan cleanup efforts as well as promote Good Sam cleanup projects at Western abandoned hard rock mining sites, (3) programmatically manage the cleanup of Western hard rock mining Superfund sites, and (4) identify the most effective technological solutions for historic Western hard rock mining sites and, once identified, raise awareness of their efficacy to heighten their application in the field.

- EPA plans to continue leveraging federal efforts to develop a comprehensive site inventory, to prioritize sites for characterization and cleanup, and to identify or implement cost-effective cleanup technologies. These federal efforts will continue to include work with state and tribal counterparts to establish inventories of AML sites on their lands; develop efficient, cost-effective characterization techniques and cleanup approaches; and to engage communities affected by Western AML sites regarding site issues, including, as applicable, risks, cleanup progress and other salient topics.

LEAD OFFICE/REGION: OLEM

OTHER KEY OFFICES/REGIONS: OW, OECA, ALL TEN REGIONS WITH EMPHASIS ON REGIONS 6-10